CLAIMS:

1.   A coin discriminating method comprising steps of irradiating a surface of a coin with light, photoelectrically detecting light reflected by the surface of the coin, producing detected pattern data of the surface of the coin,

5   binarizing corresponding reference pattern data so that "1" is assigned to pixel data having a signal intensity level equal to or higher than a predetermined signal intensity level and "0" is assigned to pixel data having a signal intensity level lower than the predetermined signal intensity level to produce reference bright portion pattern data consisting of

10   "1" pixel data and reference dark portion pattern data consisting of "0" pixel data, extracting, based on the thus produced reference bright portion pattern data and reference dark portion pattern data, bright portion pattern data consisting of pixels corresponding to pixels included in the reference bright portion pattern data and dark portion pattern data

15   consisting of pixels corresponding to pixels included in the reference dark portion pattern data from the detected pattern data, averaging signal intensity levels of the pixels included in the bright portion pattern data to calculate a bright portion data signal intensity average value, averaging signal intensity levels of the pixels included in the dark portion pattern

20   data to calculate a dark portion data signal intensity average value, calculating a difference between the bright portion data signal intensity average value and dark portion data signal intensity average value, comparing it with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination, and

25   discriminating that a damage level of the surface of the coin is equal to or lower than a predetermined level when the difference between the bright portion data signal intensity average value and dark portion data signal intensity average value is equal to or larger than the threshold value and discriminating that the surface of the coin is damaged to higher than the

predetermined level when the difference between the bright portion data signal intensity average value and dark portion data signal intensity average value is smaller than the threshold value.

5   2.   A coin discriminating method in accordance with Claim 1 which further comprises steps of calculating the sum of the bright portion signal intensity average value and dark portion signal intensity average value and estimating the sum of the bright portion signal intensity average value and dark portion signal intensity average value in accordance with an

10   algorithm for the corresponding denomination, thereby discriminating whether or not the coin is damaged to higher than the predetermined level.

3.   A coin discriminating method in accordance with Claim 2 which further comprises steps of comparing the detected pattern data and the

15   reference pattern data by pattern matching to detect a degree to which the detected pattern data and the reference pattern data coincide with each other, comparing the degree to which the detected pattern data and the reference pattern data coincide with each other with a threshold value of coins of a corresponding denomination among threshold values defined for

20   each denomination of coins, and discriminating that a damage level of the surface of the coin is equal to or lower than a predetermined level when the degree to which the detected pattern data and the reference pattern data coincide with each other is equal to or larger than the threshold value and that the surface of the coin is damaged to higher than the predetermined

25   level when the degree to which the detected pattern data and the reference pattern data coincide with each other is smaller than the threshold value.

4.   A coin discriminating method in accordance with Claim 2 which further comprises, in the case where a coin is made of a cupronickel system

material, a brass system material or a bronze system material, steps of comparing the sum of the bright portion signal intensity average value and dark portion signal intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each

5   denomination of coins and discriminating that a damage level of the surface of the coin is equal to or lower than a predetermined level when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is equal to or larger than the threshold value and that the surface of the coin is damaged to higher than the predetermined

10   level when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is smaller than the threshold value, and which further comprises, in the case where a coin is made of an aluminum system material, steps of comparing the sum of the bright portion signal intensity average value and dark portion signal intensity

15   average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins and discriminating that the surface of the coin is damaged to higher than the predetermined level when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is

20   equal to or larger than the threshold value and that a damage level of the surface of the coin is equal to or lower than a predetermined level when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is smaller than the threshold value.

25   5.   A coin discriminating method in accordance with Claim 3 which further comprises, in the case where a coin is made of a cupronickel system material, a brass system material or a bronze system material, steps of comparing the sum of the bright portion signal intensity average value and dark portion signal intensity average value with a threshold value of coins

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of a corresponding denomination among threshold values defined for each denomination of coins and discriminating that a damage level of the surface of the coin is equal to or lower than a predetermined level when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is equal to or larger than the threshold value and that the surface of the coin is damaged to higher than the predetermined level when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is smaller than the threshold value, and which further comprises, in the case where a coin is made of an aluminum system material, steps of comparing the sum of the bright portion signal intensity average value and dark portion signal intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins and discriminating that the surface of the coin is damaged to higher than the predetermined level when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is equal to or larger than the threshold value and that a damage level of the surface of the coin is equal to or lower than a predetermined level when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is smaller than the threshold value.

6.   A coin discriminating method in accordance with Claim 3, wherein the detected pattern data and the reference pattern data are mapped in an r-θ coordinate system.

7.   A coin discriminating apparatus comprising a coin passage member for supporting a lower surface of a coin, a first transporting belt disposed above the coin passage member adapted for forming a coin passage between the coin passage member and itself and holding the coin between the coin

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passage member and itself, thereby transporting it, a first light source for emitting light via a first transparent passage portion formed in the coin passage member toward the lower surface of the coin being transported by the first transporting belt on the coin passage member, a first light

5   receiving means for photoelectrically detecting light emitted from the first light source and reflected from the lower surface of the coin via the first transparent portion and producing detected pattern data of the lower surface of the coin, a second transporting belt for supporting the lower surface of the coin, a coin passage forming member disposed above the

10   second transporting belt for forming the coin passage between the lower surface thereof and the second transporting belt and holding the coin between the lower surface thereof and the second transporting belt, thereby transporting it, a second light source for emitting light via a second transparent passage portion formed in the coin passage forming member

15   toward an upper surface of the coin being supported and transported by the second transporting belt, a second light receiving means for photoelectrically detecting light emitted from the second light source and reflected from the upper surface of the coin via the second transparent portion and producing detected pattern data of the upper surface of the coin,

20   a first pattern data storing means for storing the detected pattern data of the lower surface of the coin produced by the first light receiving means, a second pattern data storing means for storing the detected pattern data of the upper surface of the coin produced by the second light receiving means, a reference pattern data storing means for storing reference pattern data of

25   coins of each denomination, a reference damage level data storing means for storing reference damage level data of coins of each denomination, a denomination discriminating means for comparing the detected pattern data of the lower surface of the coin stored in the first pattern data storing means and the reference pattern data of coins of each denomination stored

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in the reference pattern data storing means by pattern matching and comparing the detected pattern data of the upper surface of the coin stored in the second pattern data storing means and the reference pattern data of coins of each denomination stored in the reference pattern data storing means by pattern matching, thereby discriminating whether or not the coin is acceptable and the denomination of the coin, and a damage level discriminating means for discriminating whether or not the coin is damaged to higher than a predetermined level based on the detected pattern data of the lower surface of the coin stored in the first pattern data storing means and the detected pattern data of the upper surface of the coin stored in the second pattern data storing means, the damage level discriminating means being constituted so as to binarize the reference pattern data of the obverse surface and the reverse surface of the coin of the denomination discriminated by the denomination discriminating means so that "1" is assigned to pixel data having a signal intensity level equal to or higher than a predetermined signal intensity level and "0" is assigned to pixel data having a signal intensity level lower than the predetermined signal intensity level to produce reference bright portion pattern data consisting of "1" pixel data and reference dark portion pattern data consisting of "0" pixel data, extract, based on the thus produced reference bright portion pattern data and reference dark portion pattern data, bright portion pattern data consisting of pixels corresponding to pixels included in the reference bright portion pattern data of the lower surface of the coin from the detected pattern data of the lower surface of the coin and dark portion pattern data consisting of pixels corresponding to pixels included in the reference dark portion pattern data of the lower surface of the coin from the detected pattern data of the lower surface of the coin, average signal intensity levels of the pixels included in the bright portion pattern data, thereby calculating a bright portion data signal intensity average value,

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average signal intensity levels of the pixels included in the dark portion pattern data, thereby calculating a dark portion data signal intensity average value, calculate a difference between the bright portion data signal intensity average value and dark portion data signal intensity average

5 value, compare it with a threshold value of the lower surface of a coin of the denomination discriminated by the denomination discriminating means among threshold values of the obverse surfaces and the reverse surfaces of coins of each denomination stored in the reference damage level data storing means, discriminate that a damage level of the lower surface of the

10 coin is equal to or lower than a predetermined level when the difference between the bright portion data signal intensity average value and dark portion data signal intensity average value is equal to or larger than the threshold value and that the lower surface of the coin is damaged to higher than the predetermined level when the difference between the bright

15 portion data signal intensity average value and dark portion data signal intensity average value is smaller than the threshold value, extract bright portion pattern data consisting of pixels corresponding to pixels included in the reference bright portion pattern data of the upper surface of the coin from the detected pattern data of the upper surface of the coin and dark

20 portion pattern data consisting of pixels corresponding to pixels included in the reference dark portion pattern data of the upper surface of the coin from the detected pattern data of the upper surface of the coin, average signal intensity levels of the pixels included in the bright portion pattern data, thereby calculating a bright portion data signal intensity average value,

25 average signal intensity levels of the pixels included in the dark portion pattern data, thereby calculating a dark portion data signal intensity average value, calculate a difference between the bright portion data signal intensity average value and dark portion data signal intensity average value, compare it with a threshold value of the upper surface of a coin of the

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denomination discriminated by the denomination discriminating means among threshold values of the obverse surfaces and the reverse surfaces of coins of each denomination stored in the reference damage level data storing means, and discriminate that a damage level of the upper surface of the coin is equal to or lower than a predetermined level when the difference between the bright portion data signal intensity average value and dark portion data signal intensity average value is equal to or larger than the threshold value and that the upper surface of the coin is damaged to higher than the predetermined level when the difference between the bright portion data signal intensity average value and dark portion data signal intensity average value is smaller than the threshold value.

8. A coin discriminating apparatus in accordance with Claim 7, wherein the reference pattern data storing means is constituted so as to store the reference bright portion pattern data and the reference dark portion pattern data.

9. A coin discriminating apparatus in accordance with Claim 7, wherein the damage level discriminating means is constituted so as to produce the reference bright portion pattern data and reference dark portion pattern data of the lower surface of a coin of the denomination discriminated by the denomination discriminating means and the reference bright portion pattern data and reference dark portion pattern data of the upper surface of a coin of the denomination discriminated by the denomination discriminating means and store the produced data in the reference pattern data storing means.

10. A coin discriminating apparatus in accordance with Claim 7, wherein the damage level discriminating means is constituted so as to

calculate the sum of the bright portion signal intensity average value and dark portion signal intensity average value and estimate the sum of the bright portion signal intensity average value and dark portion signal intensity average value in accordance with an algorithm for the

5   corresponding denomination, thereby discriminating whether or not the surface of the coin is damaged to higher than a predetermined level and the reference damage level data storing means is constituted so as to store the algorithm for each denomination of coins.

10   11.   A coin discriminating apparatus in accordance with Claim 8, wherein the damage level discriminating means is constituted so as to calculate the sum of the bright portion signal intensity average value and dark portion signal intensity average value and estimate the sum of the bright portion signal intensity average value and dark portion signal

15   intensity average value in accordance with an algorithm for the corresponding denomination, thereby discriminating whether or not the surface of the coin is damaged to higher than a predetermined level and the reference damage level data storing means is constituted so as to store the algorithm for each denomination of coins.

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12.   A coin discriminating apparatus in accordance with Claim 9, wherein the damage level discriminating means is constituted so as to calculate the sum of the bright portion signal intensity average value and dark portion signal intensity average value and estimate the sum of the

25   bright portion signal intensity average value and dark portion signal intensity average value in accordance with an algorithm for the corresponding denomination, thereby discriminating whether or not the surface of the coin is damaged to higher than a predetermined level and the reference damage level data storing means is constituted so as to store the

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algorithm for each denomination of coins.

13.   A coin discriminating apparatus in accordance with Claim 10, wherein the damage level discriminating means is further constituted so as to compare a degree of pattern matching determined by the denomination discriminating means regarding level of coincidence between the detected pattern data of the lower surface of the coin and the reference pattern data of coins of each denomination stored in the reference pattern data storing means with a threshold value of the lower surface of a coin of the denomination discriminated by the denomination discriminating means among threshold values defined for obverse and reverse surfaces of coins of each denomination, discriminate that a damage level of the lower surface of the coin is equal to or lower than a predetermined level when the degree of the pattern matching is equal to or larger than the threshold value and that the lower surface of the coin is damaged to higher than the predetermined level when the degree of the pattern matching is smaller than the threshold value, compare the degree of pattern matching determined by the denomination discriminating means regarding level of coincidence between the detected pattern data of the upper surface of the coin and the reference pattern data of coins of each denomination stored in the reference pattern data storing means with a threshold value of the upper surface of a coin of the denomination discriminated by the denomination discriminating means among threshold values defined for obverse and reverse surfaces of coins of each denomination, and discriminate that a damage level of the upper surface of the coin is equal to or lower than a predetermined level when the degree of the pattern matching is equal to or larger than the threshold value and that the upper surface of the coin is damaged to higher than the predetermined level when the degree of the pattern matching is smaller than the threshold value.

14.   A coin discriminating apparatus in accordance with Claim 11, wherein the damage level discriminating means is further constituted so as to compare a degree of pattern matching determined by the denomination

5   discriminating means regarding level of coincidence between the detected pattern data of the lower surface of the coin and the reference pattern data of coins of each denomination stored in the reference pattern data storing means with a threshold value of the lower surface of a coin of the denomination discriminated by the denomination discriminating means

10   among threshold values defined for obverse and reverse surfaces of coins of each denomination, discriminate that a damage level of the lower surface of the coin is equal to or lower than a predetermined level when the degree of the pattern matching is equal to or larger than the threshold value and that the lower surface of the coin is damaged to higher than the predetermined

15   level when the degree of the pattern matching is smaller than the threshold value, compare the degree of pattern matching determined by the denomination discriminating means regarding level of coincidence between the detected pattern data of the upper surface of the coin and the reference pattern data of coins of each denomination stored in the reference pattern

20   data storing means with a threshold value of the upper surface of a coin of the denomination discriminated by the denomination discriminating means among threshold values defined for obverse and reverse surfaces of coins of each denomination, and discriminate that a damage level of the upper surface of the coin is equal to or lower than a predetermined level when the

25   degree of the pattern matching is equal to or larger than the threshold value and that the upper surface of the coin is damaged to higher than the predetermined level when the degree of the pattern matching is smaller than the threshold value.

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15.   A coin discriminating apparatus in accordance with Claim 12, wherein the damage level discriminating means is further constituted so as to compare a degree of pattern matching determined by the denomination discriminating means regarding level of coincidence between the detected pattern data of the lower surface of the coin and the reference pattern data of coins of each denomination stored in the reference pattern data storing means with a threshold value of the lower surface of a coin of the denomination discriminated by the denomination discriminating means among threshold values defined for obverse and reverse surfaces of coins of each denomination, discriminate that a damage level of the lower surface of the coin is equal to or lower than a predetermined level when the degree of the pattern matching is equal to or larger than the threshold value and that the lower surface of the coin is damaged to higher than the predetermined level when the degree of the pattern matching is smaller than the threshold value, compare the degree of pattern matching determined by the denomination discriminating means regarding level of coincidence between the detected pattern data of the upper surface of the coin and the reference pattern data of coins of each denomination stored in the reference pattern data storing means with a threshold value of the upper surface of a coin of the denomination discriminated by the denomination discriminating means among threshold values defined for obverse and reverse surfaces of coins of each denomination, and discriminate that a damage level of the upper surface of the coin is equal to or lower than a predetermined level when the degree of the pattern matching is equal to or larger than the threshold value and that the upper surface of the coin is damaged to higher than the predetermined level when the degree of the pattern matching is smaller than the threshold value.

16.   A coin discriminating apparatus in accordance with Claim 10,

wherein the algorithm is defined so that in the case where a coin is made of a cupronickel system material, a brass system material or a bronze system material, when, as a result of comparing the sum of the bright portion signal intensity average value and dark portion signal intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than the threshold value, the damage level of the surface of the coin is discriminated to be equal to or lower than a predetermined level, and when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be smaller than the threshold value, the surface of the coin is discriminated to be damaged to higher than the predetermined value, and that in the case where a coin is made of a aluminum system material, when, as a result of comparing the sum of bright portion signal intensity average value and the dark portion signal intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than the threshold value, the surface of the coin is discriminated to be damaged to higher than a predetermined value, and when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is smaller than the threshold value, the damage level of the surface of the coin is discriminated to be equal to or lower than a predetermined level.

17.   A coin discriminating apparatus in accordance with Claim 11, wherein the algorithm is defined so that in the case where a coin is made of

a cupronickel system material, a brass system material or a bronze system material, when, as a result of comparing the sum of the bright portion signal intensity average value and dark portion signal intensity average value with a threshold value of coins of a corresponding denomination

5   among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than the threshold value, the damage level of the surface of the coin is discriminated to be equal to or lower than a predetermined level, and when the sum of the

10   bright portion signal intensity average value and dark portion signal intensity average value is found to be smaller than the threshold value, the surface of the coin is discriminated to be damaged to higher than the predetermined value, and that in the case where a coin is made of a aluminum system material, when, as a result of comparing the sum of

15   bright portion signal intensity average value and the dark portion signal intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than

20   the threshold value, the surface of the coin is discriminated to be damaged to higher than a predetermined value, and when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is smaller than the threshold value, the damage level of the surface of the coin is discriminated to be equal to or lower than a

25   predetermined level.

18.   A coin discriminating apparatus in accordance with Claim 12, wherein the algorithm is defined so that in the case where a coin is made of a cupronickel system material, a brass system material or a bronze system

material, when, as a result of comparing the sum of the bright portion signal intensity average value and dark portion signal intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins, the sum of

5   the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than the threshold value, the damage level of the surface of the coin is discriminated to be equal to or lower than a predetermined level, and when the sum of the bright portion signal intensity average value and dark portion signal

10   intensity average value is found to be smaller than the threshold value, the surface of the coin is discriminated to be damaged to higher than the predetermined value, and that in the case where a coin is made of a aluminum system material, when, as a result of comparing the sum of bright portion signal intensity average value and the dark portion signal

15   intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than the threshold value, the surface of the coin is discriminated to be damaged

20   to higher than a predetermined value, and when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is smaller than the threshold value, the damage level of the surface of the coin is discriminated to be equal to or lower than a predetermined level.

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19.   A coin discriminating apparatus in accordance with Claim 13, wherein the algorithm is defined so that in the case where a coin is made of a cupronickel system material, a brass system material or a bronze system material, when, as a result of comparing the sum of the bright portion

signal intensity average value and dark portion signal intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than the threshold value, the damage level of the surface of the coin is discriminated to be equal to or lower than a predetermined level, and when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be smaller than the threshold value, the surface of the coin is discriminated to be damaged to higher than the predetermined value, and that in the case where a coin is made of a aluminum system material, when, as a result of comparing the sum of bright portion signal intensity average value and the dark portion signal intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than the threshold value, the surface of the coin is discriminated to be damaged to higher than a predetermined value, and when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is smaller than the threshold value, the damage level of the surface of the coin is discriminated to be equal to or lower than a predetermined level.

20.   A coin discriminating apparatus in accordance with Claim 14, wherein the algorithm is defined so that in the case where a coin is made of a cupronickel system material, a brass system material or a bronze system material, when, as a result of comparing the sum of the bright portion signal intensity average value and dark portion signal intensity average

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value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than the threshold value, the damage level of the surface of the coin is discriminated to be equal to or lower than a predetermined level, and when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be smaller than the threshold value, the surface of the coin is discriminated to be damaged to higher than the predetermined value, and that in the case where a coin is made of a aluminum system material, when, as a result of comparing the sum of bright portion signal intensity average value and the dark portion signal intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than the threshold value, the surface of the coin is discriminated to be damaged to higher than a predetermined value, and when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is smaller than the threshold value, the damage level of the surface of the coin is discriminated to be equal to or lower than a predetermined level.

21.   A coin discriminating apparatus in accordance with Claim 15, wherein the algorithm is defined so that in the case where a coin is made of a cupronickel system material, a brass system material or a bronze system material, when, as a result of comparing the sum of the bright portion signal intensity average value and dark portion signal intensity average value with a threshold value of coins of a corresponding denomination

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among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be equal to or larger than the threshold value, the damage level of the surface of the coin is discriminated to be

5 equal to or lower than a predetermined level, and when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is found to be smaller than the threshold value, the surface of the coin is discriminated to be damaged to higher than the predetermined value, and that in the case where a coin is made of a

10 aluminum system material, when, as a result of comparing the sum of bright portion signal intensity average value and the dark portion signal intensity average value with a threshold value of coins of a corresponding denomination among threshold values defined for each denomination of coins, the sum of the bright portion signal intensity average value and dark

15 portion signal intensity average value is found to be equal to or larger than the threshold value, the surface of the coin is discriminated to be damaged to higher than a predetermined value, and when the sum of the bright portion signal intensity average value and dark portion signal intensity average value is smaller than the threshold value, the damage level of the

20 surface of the coin is discriminated to be equal to or lower than a predetermined level.

22.   A coin discriminating apparatus in accordance with Claim 13, wherein the denomination discriminating means is constituted so as to

25 compare the reference pattern data mapped in an r-θ coordinate system and the detected pattern data mapped in the r-θ coordinate system by pattern matching, thereby discriminating whether or not the coin is acceptable and the denomination of the coin.

23.   A coin discriminating apparatus in accordance with Claim 14, wherein the denomination discriminating means is constituted so as to compare the reference pattern data mapped in an r-θ coordinate system and the detected pattern data mapped in the r-θ coordinate system by pattern matching, thereby discriminating whether or not the coin is acceptable and the denomination of the coin.

24.   A coin discriminating apparatus in accordance with Claim 15, wherein the denomination discriminating means is constituted so as to compare the reference pattern data mapped in an r-θ coordinate system and the detected pattern data mapped in the r-θ coordinate system by pattern matching, thereby discriminating whether or not the coin is acceptable and the denomination of the coin.

25.   A coin discriminating apparatus in accordance with Claim 7 which further comprises a data processing means for effecting edge enhancement processing on the detected pattern data and wherein the denomination discriminating means is constituted so as to compare the reference pattern data and the detected pattern data subjected to edge enhancement processing by pattern matching, thereby discriminating whether or not the coin is acceptable and the denomination of the coin.